Nelson Maths 9 for the CSF II
Homework and Assessment Sheets

Trigonometry — ME 9-6

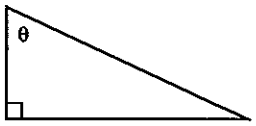
Name: _____ **Class:** _____

Due date: _____ **Parent's signature:** _____

Level 6	/30

Level 6

1 Label the hypotenuse, adjacent and opposite sides of the triangle with respect to angle θ.



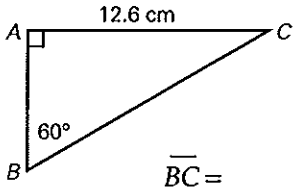
Use a calculator to find the value of the following to four decimal places.

2 sin 20° _____ **3** cos 37° _____

4 sin 45° + cos 45° _____ **5** sin 90° + cos 90° _____

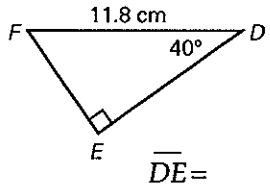
Find the lengths of the requested sides correct to one decimal place.

6



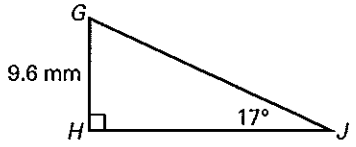
$\overline{BC}$ = _____

7



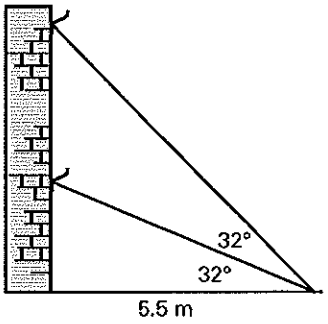
$\overline{DE}$ = _____

8



$\overline{HJ}$ = _____

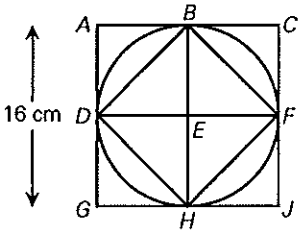
The diagram shows two hooks on a wall. How high up is each of them?



9 bottom hook = _____

10 top hook = _____

Find the lengths of the lines.



11 $\overline{DF}$ = _____

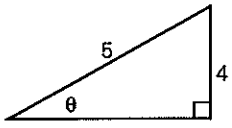
12 $\overline{BC}$ = _____

13 $\overline{BF}$ = _____

14 curve $\overline{DB}$ = _____

Calculate angle θ to the nearest whole degree by using the correct trigonometric ratio.

15



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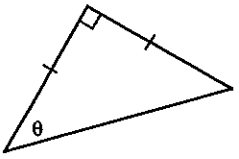

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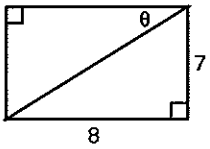

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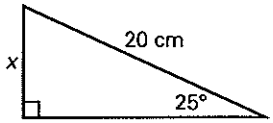
Find the value of the pronumeral to the nearest cm.

18



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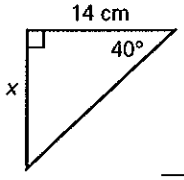

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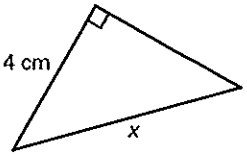

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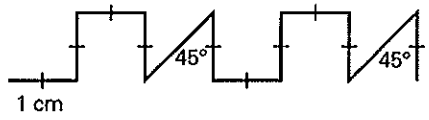
Find the total distance of the lines in each of the following designs based on squares. In each case —|— represents 1 cm.

21



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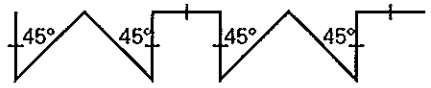

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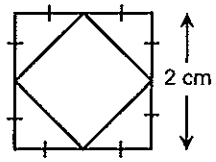
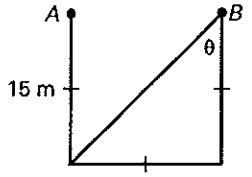


24 How much shorter is it to go from A to B via the diagonal? _____

25 What must be the size of angle θ? _____



Match the values on the left with two from the box.

26 sin 90° _____, _____

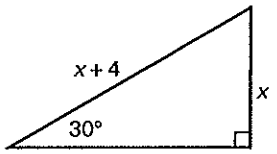
27 cos 45° _____, _____

28 sin 0° _____, _____

sin 45°	cos 90°	tan 45°
cos 0°		
tan 180°		sin 135°

Find the value of x in each triangle.

29



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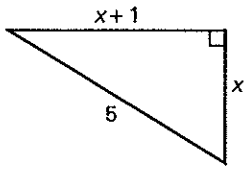

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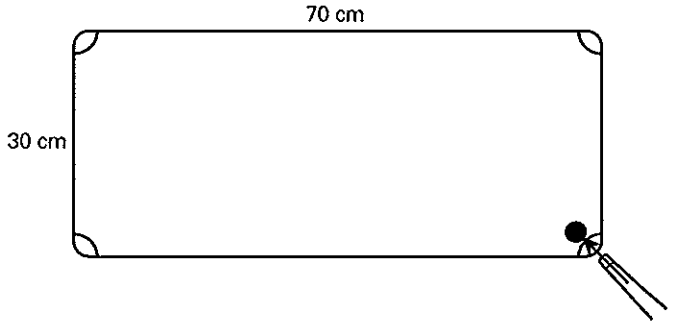
Puzzler

On this miniature pool table, how many rebounds does it take to pot the ball in the diagonally opposite corner?



Vocabulary

Write the mathematical meanings of:

Diagonal _____

Sine (sin) _____

Cosine (cos) _____

_____

Tangent (tan) _____

_____

Applications of right-angled triangles ME 9-7

Name: _____ **Class:** _____

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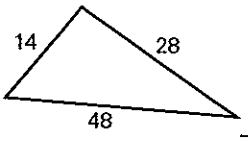
Level 6

Are these triangles right-angled?

1



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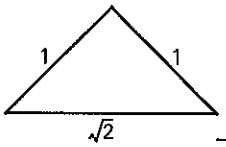

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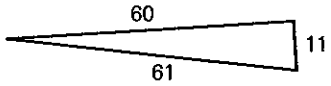

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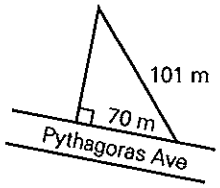
Find the fencing needed to enclose each house block (to the nearest metre).

4



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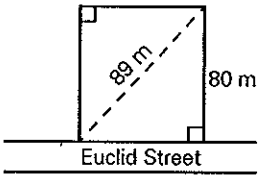

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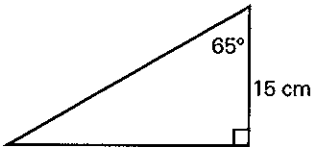
Calculate the areas of each shape to the nearest cm^2.

6



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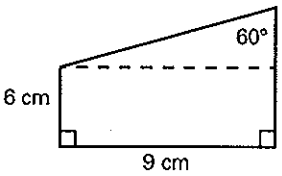

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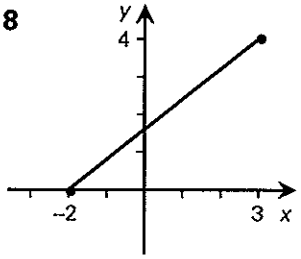
Find the length of the line on each graph.

8



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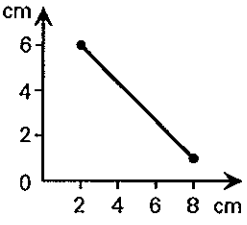

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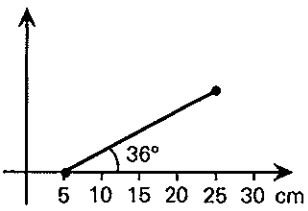

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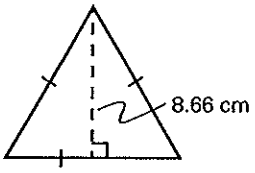
Calculate the perimeter of these regular polygons in centimetres to two decimal places.

11



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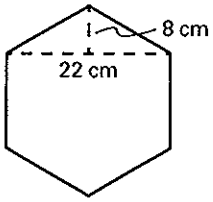

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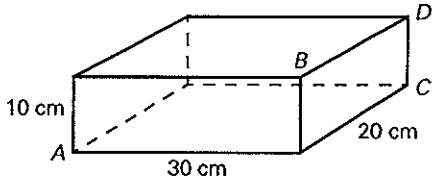
Can a 40-cm ruler fit in the desk drawer shown:

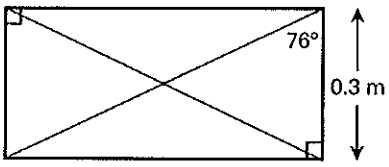
13 lying on the diagonal *AB*? _____

14 lying on the diagonal *AC*? _____

15 lying on the diagonal *AD*? _____



David wanted to make his own leadlight windows. His first one is shown in the diagram below.

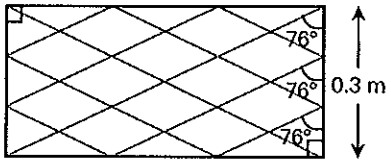


16 How many metres of lead are needed for the outer perimeter? _____

17 How many metres for the two diagonals? _____

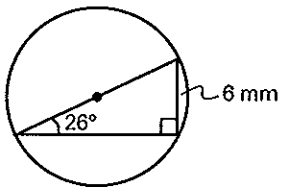
18 How many metres for the whole window? _____

For his second window design he needed eight extra pieces of lead to make a diamond pattern as shown.



19 How much more lead does he need for this window than the for first one? _____

Calculate the following from the diagram.

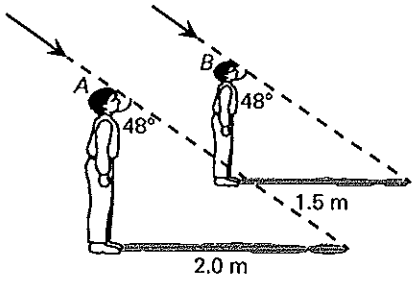


20 The diameter of the circle. _____

21 The perimeter of the circle. _____

22 The perimeter of the triangle. _____

Use the diagram about shadows to answer these questions.



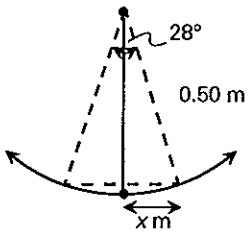
23 How tall is person *A*? _____

24 How tall is person *B*? _____

25 A third person 200 cm tall would cast a shadow how long? _____

26 At what angle to the horizontal are the sun's rays in this diagram? _____

A pendulum is 0.50 m in length and it swings through an angle of 28°.



27 Find the distance x in metres. _____

28 If the length was doubled, would the value of x double? _____

29 Explain. _____

30 A grandfather clock has a pendulum 0.8 m in length which swings through an angle of 14°. How wide must the clock cabinet be to avoid the pendulum hitting the wall on either side? _____

Puzzler

'Our bedrooms must be the same size. They have the same diagonal length.'

'Nonsense! They may be, but they don't *have* to be.'

Who is right and why?

Vocabulary

Write the mathematical meanings of:

Polygon _____

Regular polygon _____

Horizontal _____